REMARKS

This paper is being provided in response to the Final Office Action dated March 26, 2010, for the above-referenced application. Applicant respectfully requests consideration of the following remarks.

Applicant notes that claims 4, 5 and 8-12 have been maintained in the application in withdrawn status and submits that upon allowance of a base generic claim, these claims should be rejoined to the application and also allowed as provided under MPEP 821.04 and 37 C.F.R. 1.141.

The rejection of claims 1, 6-7, 25 and 28 [and 29] under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (hereinafter "Applicant's APA") in view of U.S. Patent No. 6,188,395 to Yatabe (hereinafter "Yatabe") by is hereby traversed and reconsideration is respectfully requested. Although not included in the statement of the rejection on page 2 of the Final Office Action, it is believed that claim 29 is included in the rejection because it is discussed in the detailed analysis portion of the Final Office Action.

Independent claim 1 recites a current-drive apparatus for a display panel. A plurality of current-drive circuits are included, each of said plurality of current-drive circuits including first and second terminals, a reference resistor connected between said first and second terminals and a reference current generation circuit to produce at least one internal reference current responding to a voltage generated based on the reference resistor. A current source and said plurality of current-drive circuits are connected such that a current flowing through said current

source becomes substantially equal to a current flowing through said reference resistor of each of said current-drive circuits, wherein a current flowing through said reference resistor in a first one of said current-drive circuits flows through said reference resistor in a second one of said current-drive circuits, and wherein said current drive circuits are coupled in series in a manner that said first terminal of a preceding one of said current drive circuits is connected to the second terminal of a succeeding one of said current-drive circuits which is adjacent to the preceding one of said current-drive circuits. At least one of said plurality of current-drive circuits further includes at least one current adjustment resistor, wherein the at least one current adjustment resistor operates such that a reference voltage generated based on voltage at both ends of said reference resistor is applied across said at least one current adjustment resistor to generate said at least one internal reference current. Claims 4-12 and 29 depend directly or indirectly from independent claim 1.

Independent claim 25 recites a current-drive system for a display panel including first and second power source lines. A plurality of current-drive ICs are included, each of said plurality of current-drive ICs having first and second terminals and having a first resistor connected between said first and second terminals. A current source is connected to said plurality of current-drive ICs so that said ICs and said current source are connected in cascade with said first and second terminals between first and second power source lines, wherein said ICs are coupled in series between said first power source line and said current source in such a manner that the second terminal of a preceding one of said ICs is connected to the first terminal of a succeeding one of said ICs. At least one of said plurality of current-drive ICs produces an internal reference voltage based on a voltage generated at both ends of said first resistor, and wherein at least one

of said plurality of current drive ICs further includes a second resistor having a first end coupled to one end of the first resistor and having a second end coupled to the other end of the first resistor. Claim 28 depends from independent claim 25.

Applicant's APA is cited as disclosing a current-drive apparatus for a display panel comprising a plurality of current-drive circuits (citing to Fig. 1, section for 2a and 2b of Applicant's specification) and in which each of the plurality of current-drive circuits include first (citing to Fig. 1, terminal at VDD and R1) and second terminals (citing to Fig. 1, Terminal A). The Final Office Action states that that the AAPA does not teach a reference resistor connected between the first and second terminals and a reference current generation circuit to produce at least one internal reference current responding to a voltage generated based on the reference resistor.

Yatabe discloses a power source circuit, a power source for driving a liquid crystal display and a liquid crystal display device. The Final Office Action cites to Yatabe as disclosing that a reference resistor of a current-drive circuit located on the side of a high voltage supply is connected to the high voltage supply through a voltage adjustment resistor and a reference resistor of a current-drive circuit located on the side of a low voltage supply is connected to the current source, citing to Fig. 1 (R12) and col. 7, lines 1-20 and col. 12, lines 15-20 of Yatabe.

The Final Office Action interprets resistor R12 in the voltage dividing circuit S of Yatabe as the reference resistor of claim 1 and the first resistor of claim 25. The Final Office Action concludes that it would have been obvious to one of ordinary skill in the art to modify

Applicant's APA to include the use of a reference resistor (R12) of Yatabe according to that noted above. Applicant respectfully traverses this conclusion for the reasons set forth below.

Specifically, Yatabe discloses in column 7, lines 21-36 that:

> Between the power source electric potentials VDD and VEE, a voltage dividing circuit S is connected in parallel with the circuit composed of the above-described voltage dividing resistors R1, R2, R3, R4 and R5. In this voltage dividing circuit S, a part wherein a large resistor R12 and a capacitor C5 are connected in parallel, and a part where a large resistor R13 and a capacitor C6 are connected in parallel, are connected in series, and the intermediate electric potential Va is taken from the intermediate points A and A' which are these connecting points.
>
> Because R12=R13 in the present embodiment, this intermediate electric potential Va is set to the value
>
> $$Va = (VDD + VEE)/2 = Vo$$
>
> under normal conditions.

Applicant submits that these paragraphs indicate that the resistors R12 and R13 are used for voltage dividing to develop an electric potential Va of (VDD + VEE)/2 on the intermediate points A and A'. A person of ordinary skill in the art would not consider, or be led, to connect the resistors R12 and R13 between the two terminals of each of the current-drive ICs because the current source 5 is connected in series to current-drive ICs. Voltage dividing would not be achieved in the situation in which the current source 5 is connected in series to the resistors R12 and 13. As is known in the art, voltage dividing is achieved by connecting series-connected resistors between two nodes each having a fixed potential; however, the potential of the output of the current source 5 is changeable. The current source 5 only has a function of keeping the output current constant, not keeping the output voltage constant. Thus, one of ordinary skill in the art would not be led to use Yatabe's resistor R12 in combination with Applicant's APA in the manner proposed in the Final Office Action to reject Applicant's claims.

Accordingly, there is no motivation to one of ordinary skill in the art for the proposed use of Yatabe's R12 in the manner proposed by the Final Office Action for combining with Applicant's APA, since the proposed rationale in the Final Office Action for doing so would render Yatabe's device unsatisfactory for its stated purpose. It is well known law that if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *See In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). In addition, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *See In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

In view of the above, Applicant respectfully submits that the cited prior art does not appropriately combine in the manner suggested in the Final Office to render Applicant's claimed invention as obvious over the cited prior art. Applicant respectfully submits that the rejection should be reconsidered and withdrawn.

Furthermore, in addition to the above arguments concerning independent claims 1 and 25, Applicant also specifically traverses the rejection of claim 6, and claim 7 depending therefrom, based on inconsistencies in the analysis set forth in the Final Office Action. As noted above, in connection with claims 1 and 25, the Final Office Action cites to Yatabe's resistor R12 as a reference resistor purporting to be used like that recited by Applicant, and Applicant has

traversed the use of Yatabe's R12 as set forth above to reject Applicant's claims. Additionally, however, in connection with claim 6, the Final Office Action has then inconsistently cited to Yatabe's resistor R8 as the reference resistor of Applicant's claims (see page 7 of the Final Office Action). Applicant submits that Yatabe's resistor R8 does not satisfy the features recited by Applicant for the reference resistor in the independent claim 1, and that it is not sustainable as a rejection to inconsistently cite to a different resistor in connection with Applicant's recited reference resistor of claim 6 compared to that of independent claim 1 from which claim 6 depends.

Additionally, it is noted in Yatabe that the operational amplifiers OP1 and OP2 do not output a voltage appearing at any one of terminals of the resistor R12. The operational amplifier OP1 outputs a voltage appearing at the node between the resistors R1 and R2 and the operational amplifier OP2 outputs a voltage appearing at the node between the resistors R2 and R3.

Based on the above, Applicant respectfully requests that the Examiner reconsider and withdraw all outstanding rejections and objections. Favorable consideration and allowance are earnestly solicited. Should there be any questions after reviewing this paper, the Examiner is invited to contact the undersigned at 508-898-8603.

Respectfully submitted,
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